

In the specification:

On page 1, at the top, please add a title as follows:

METHOD AND DEVICE FOR PRODUCING HIGHLY ACTIVE RUBBER POWDER FROM RUBBER WASTES

After the claims, please add an Abstract as follows:

ABSTRACT

Highly-active rubber powder is obtained from old tires etc. by 2-stage pulverisation in a special extruder, involving an increase in volume stress to 15-250 MPa at 5-90 MPa/second, pulsating with an amplitude of +/- 5-20 MPa and a frequency of 5-600 Hz, and at 90-380 °C (increasing at 50-150 °C/sec), followed by a sharp reduction of volume stress at 50-150 MPa/sec. A method for the production of highly-active rubber powder with a specific surface of 0.4-5 m²/g from old tires and scrap vulcanised rubber articles based on various rubbers by 2-stage thermo-mechanical treatment in an extruder. This involves (a) fine pulverisation and (b) sharp reduction of the volume stress. An apparatus for the production of highly-active rubber powder includes a cylindrical housing with feed and discharge connections, a compression zone and pulverisation zone(s), each with a compression screw with grooves decreasing in depth in the machine direction and a rotating coaxial activator with grooves on its outer working surface, the housing, screw and activator being provided with cooling elements. One of the two pulverisation zones (A) is a zone formed by the housing and a multi-thread compression screw in which the inter-thread volume decreases towards the outlet and the inner surface is formed by a conical opening which slopes towards the outlet and by 3-6 meshing grooves of rectangular cross-section. The second pulverisation zone (B) is formed by (a) a rotating activator with a discharge screw rigidly fixed to it and aligned with the compression screw and (b) the surrounding housing.